State of Hawaii
Department of Health
Health Resources
Emergency Medical Services & Injury Prevention System
Branch

Addendum 1

November 30, 2004

To

Request for Proposals

HTH 730-1
EMERGENCY MEDICAL SERVICES
FOR MAUI COUNTY
October 12, 2004

November 30, 2004

ADDENDUM NO. 1

To

REQUEST FOR PROPOSALS
EMERGENCY MEDICAL SERVICES FOR
MAUI COUNTY
HTH 730-1

The Department of Health Emergency Medical Services and Injury Prevention System Branch is issuing this addendum to HTH 730-1, Emergency Medial Services for Maui County for the purposes of:

- ☑ Responding to questions that arose at the orientation meeting of November 16, 2004 and written questions subsequently submitted in accordance with Section 1-V, of the RFP.
- ☐ Amending the RFP.

The proposal submittal deadline:

- ☐ is amended to <new date>.
- ☑ is not amended.

Enclosed is (are):

- ☑ A summary of the questions raised and responses for purposes of clarification of the RFP requirements.
- ☑ Amendments to the RFP.

Should you have any questions, contact:
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Responses to Question Raised by Applicants
For RFP No. HTH 730-1
Emergency Medical Services for Maui County

1. **Page 1-9, XXI General and Special Conditions of Contract, section 1.4 of the General Conditions regarding insurance requires $1 million in liability coverage. The incumbent provider is currently required to have $10 million for Maui's aeromedical coverage, listing the County of Maui as additional insured. What are the insurance requirements?**

   The required amount of liability insurance should be TEN MILLION DOLLARS ($10,000,000.00) per Department of Health directive and as recommended by the air ambulance industry. The Certification of Insurance must also name both the County of Maui and the State of Hawaii as additional insured.

2. **Page 2-3, I.E Probable Funding, regarding clarify the amount of Maui County's aeromedical funding share. "SIX HUNDRED ELEVEN THOUSAND FIVE HUNDRED AND 00/100 ($611,000.00) . . ."**

   Corrected to $611,500.00.

3. **Page 2-3, I.E Probable Funding, is the STATE implying that the budgeted costs set at the 2005 fiscal year budget for the life of the contract?**

   No, see Page 2-3, I.E. Probable Funding, the last paragraph allows for cost increases as stated. Additional funding may be provided if appropriated by the Legislature and approved by the Governor.

4. **Page 2-3, I.E Probable Funding, why is budgeted cost increases based on collective bargaining agreement for the City and County of Honolulu EMS work force?**

   State Statute requires that a private employer must pay no less than what is paid to state or county workers for the same and like employment. UPW Unit 10 is used as a marker for budgeting and forecasting funding requirements.

5. **Page 2-11, IV.D Equipment and Supplies, will the STATE require cardiac monitor defibrillation equipment meet 1998 American Heart Association standards for prehospital 12-Lead ability?**

   No. All equipment carried onboard an ambulance unit must be inspected and approved by the STATE.

6. **Page 3-4, VI.A Litigation, if the bidder is owned by a parent corporation/company is the STATE's requirement for litigation documentation only for the legal bidding entity only or for the entity's parent organization?**

The STATE is only requiring documentation for the legal bidding entity not the parent company.

7. Attachment D, Geographic Coverage of Service, page 2,"Unit 39 covers the entire island of Molokai with the exception of Kalalau County." Should this read Kalawao County instead of Kalalau County?

Kalawao County.

8. Attachment E, Scope of Work, page 4 (4), can participation in Base Station training be via interactive web site and/or by VHS/DVD review at a later date?

The monthly base station meetings conducted by the State EMS Medical Director for purpose of quality improvement may be via interactive web or VHS/DVD technology to encourage broader participation.

9. Attachment E, Scope of Work, page 7, e. Ambulance Services Operations, do response times apply only to units posted in each district, or do they also apply to units that respond from another district?

Response times are specific to the ambulance unit assigned to that geographic district. See Attachment D.

10. Where are the major population centers?

Kahului/Wailuku, Kihei/Wailea, Lahaina/Kaanapali, Pukalani.

11. What percent of trauma cases were taken by helicopter?

The MedEvac (Unit 29) was activated on September 18, 2004. To this date (November 23, 2004) there have been eleven (11) scene calls of which four have been classified as trauma related.

12. What is the formal Hawaii protocol for use and dispatch of the helicopter?

See Attachment G, Maui MedEvac Protocols.

13. Will the helicopter do interfacility transport from Maui and Kauai to the Big Island?

No.

14. Who is responsible for the crew quarters for the helicopter?

The HTH 730-1 selected bidder/provider.

15. What is the average flight distance for the helicopter?

From scene to Honolulu: 73.5 nautical miles. From scene to Maui Memorial Medical Center: 29.4 nautical miles.

16. Are there any regulations for interhospital transport of patients via air or ground?

No. Interfacility or interhospital transports are coordinated on a physician-to-physician level. The Maui MedEvac must be used for emergent cases only as per protocol.

17. Will the STATE require bidders to provide for helicopter personal protection equipment "PPE", safety training, safety equipment, national standards for helicopter medical operations, and additional AD and D/ life insurance for the work force?

See Attachment G, Maui MedEvac Protocols. Additional life insurance is a negotiated item with the personnel.

18. What is the current mix of trauma as it relates to Adult, Pediatric, Burn, Penetrating, and Blunt Trauma?

Maui data from July 2002 to December 2002.

	Auto Trauma	***Other Trauma***	***Burn***	
Adult	402	843	11	
Pediatric	27	124	3	
Total:	429	967	14	1410

19. What percent of trauma were taken to a trauma center?

0.7% (10 out of 1,410)

20. What is the number of prehospital cardiac emergencies?

535 (July 2002 to December 2002)

21. What are the five (5) largest public health problems?

Medical, Trauma, Cardiac, Behavior/Overdose/Alcohol, Motor Vehicle Crashes/Accidents

22. What types of infectious disease are common to the islands?

Common cold.

12. If a new provider is selected, will they be awarded a Certificate of Need "CON" from the Department of Health – Emergency Medical Services and Injury Prevention Systems Branch?

The new provider must still apply for a CON with the Hawaii State Health Planning Development Agency.

23. Does the police department utilized emergency medical dispatch protocols?

Yes, the Maui Police Department utilizes the PowerPhone System.

24. Are disaster and HAZMAT plans available and where can they be obtained?

The individual County Civil Defense Emergency Preparedness Plans are to be followed. Specific EMS treatment guidelines have been developed for biological agents. Additional Plans are underway under the Center for Disease Control and Health Resources and Services Administration Bioterrorism Grants.

25. Where can copies of the union contract be obtained?

Maui union representative is Matt McHugh mattonmaui@yahoo.com

26. What are the rules governing lettering and painting of the ambulances?

See Attachment C.

27. What are the main reasons for delay of an ambulance at scene?

There has not been any documented or recurring issue regarding delay at scenes.

28. What are acceptable response times?

See Attachment E, page 1.

29. What are the biggest obstacles/challenges to the EMS system?

Sufficient staffing level and adequate funding to maintain the current workforce level.

30. What is the most important aspect of the EMS system?

Strong physician oversight of the EMS System and prehospital medical care.

31. What were the causes of ambulance accidents/crashes in the last 3 years?

There has not been any serious or critical ambulance crashes/accidents in the last three (3) years on the islands of Maui, Molokai or Lanai.

32. What are the STATE's uniform requirements?

Professional attire with the State patch on the left hand sleeve of the shirt. It is the provider's responsibility to define and enforce their own operational protocols, as approved by the STATE.

33. What are the reporting requirements to the STATE?

See page 2-9, 6. Reporting requirements and fiscal data, and Attachment E, page 9, for requirements.

34. What are the grounds for termination of the contract once awarded?
Failure to meet contract specifications or poor quality prehospital medical care. A large number of complaints regarding operations or personnel may also constitute termination of the contract.

35. Are radio communications available and will they be provided to the contracted provider?

A new provider will be required, at their cost, to pull out the UHF medical communication radio system from the present service provider's ambulances/response vehicles and reinstall the radios into their ambulances/vehicles by a STATE designated communications vendor.

36. Are we required to do interfacility transports?

All non-emergent interfacility transports should be scheduled by the transferring facility through an appropriate non-emergent transport service. If no non-emergent transport service is available and it maybe required that an interfacility transport will be required.

37. Are there any special equipment needs for servicing any aspect of the contract?

No.

38. Is extrication an EMS duty?

No. County fire departments are staffed and trained to secure patients that are trapped or in an inaccessible location. EMS may be required to assist.

39. What are the current protocols for duel dispatch of Fire and Police with EMS?

The Maui Fire and Police co-response is determined by the medical dispatch protocol system.

40. What are the local hospitals? What are their specialties?

See Attachment D for closest facility to the ambulance unit district. There are no specialty hospitals on Maui, Molokai, and Lanai.

41. What involvement, if any, do local hospitals have in EMS?

The ED physicians provide on-line medical assistance for medical care and triage at the scene and during transport to a medical facility.

42. Are we required to take the Union if awarded the contract?

It is the bidder's responsibility and/or decision to negotiate with the existing labor organization.

43. How many fire/police vehicles are there on Maui?

Maui Fire Department has 18 fire response vehicles and the Kauai Police Department has 30 marked police vehicles.

44. What are the biggest reasons for dispatch delays?

There has not been any documented incidents or issues regarding delayed dispatch of ambulances. Occasionally when multiple calls are received personnel call in back up personnel on Molokai to respond.

STATE OF HAWAII
MAUI COUNTY EMERGENCY MEDEVAC HELICOPTER IMPLEMENTATION PLAN

TABLE OF CONTENTS

Background and Introduction

The Emergency Medical Services System and Injury Prevention Branch (EMSSIPB) of the Hawaii State Department of Health (DOH), pursuant to §§321-222 through 224, Hawaii Revised Statutes, administrates and coordinates the State Emergency Medical Services System (EMS), the system of pre-hospital ambulance emergency response to 911 calls. The overall emergency medical services system for patient care in the State includes the DOH, EMSSIPB, County police, fire fighters and water safety emergency responders, public and private emergency ambulance services, emergency department and hospital staff and the public.

Maui County's emergency 911system currently consists of several components dispatched by County police. First responders are police and fire augmented by 911 ground ambulance service, currently provided by American Medical Response (AMR) under contract to the State. In addition to this publicly funded system for 911, other important components are private services. Fixed-wing aero-medical service for inter-island transport, is currently provided by Hawaii Air Ambulance (HAA), a private company doing business as the only fixed wing ambulance service in the state. AMR operates private ambulance service on the island of Maui. Only one major medical center in the County, Maui Memorial Medical Center (MMMC), has a fully staffed emergency department and the capacity to address critical patients.

The current EMS capacity for Maui County is limited by remote geographical locations of some emergency scenes requiring long ground transport times, and water barriers between islands. The islands of Molokai, Lanai and Kahoolawe have limited health care services for severely ill or injured patients while some specialty services are available only on Oahu. All of these factors affect access to timely services that can improve outcomes for critical patients.

Maui County MedEvac Helicopter (MedEvac) is intended to provide another service option to the current EMS system for Maui County that will address barriers to timely medical care. Pursuant to Act 2, 2003, Hawaii Session Laws, the DOH is implementing a rotary-wing ambulance service in Maui County, provided that State funding was matched by County funds. The funding formula was based on the lease of helicopter services from private sources with the use of AMR ground ambulance personnel as medical crew. The Kula ambulance crew, with a relatively low call volume staffed 12 hours a day, would be funded for 24 hour a day staffing and would also function as the medical crew for the MedEvac. Implementation awaited further clarification of the State's discretion in funding helicopter service as provided by Act 2, and this occurred with the 2004 legislative session.

Working within the existing EMS framework, and utilizing national guidelines, the goal of MedEvac is to provide a rotary-wing emergency medical response and rapid transport service for seriously ill or injured patients as an additional component of the overall system to improve community access to emergency services and transport to an appropriate facility for definitive care in a safe and expeditious manner.

MedEvac will serve as an adjunct to the existing 911 ground ambulances and is primarily a 911 resource for that system. It is not intended to take the place of existing inter-facility fixed-wing air ambulance transportation. All services (ground, rotary, and fixed-wing ambulances) must work

collaboratively in providing professional and cost-effective out-of-hospital emergency services to the community, thereby using resources efficiently towards improving patient outcomes overall for the entire population at risk. The MedEvac service is intended to improve the overall EMS system that serves the people of Maui County.

Mission Safety

Training Program

Primary to mission safety for the MedEvac program are the knowledge, skills and attitude of personnel and adequate preparation. The Federal Aviation Agency (FAA) strictly regulates safety standards for the helicopter, maintenance and pilots. Pacific Helicopters will assure that these standards are met.

All personnel who participate in MedEvac missions will have had basic helicopter safety awareness training. AMR employees, licensed Mobilel Intensive Care Technicians (MICTs) and Emergency Medical Technicians (EMTs) will be provided an educational training program to prepare for implementation of the MedEvac service and to provide ongoing assurance that personnel are prepared. To provide flight safety training for emergency medical personnel assigned to staff, a MedEvac course was designed by Dave Caraveo, AMR Regional Safety & Risk Manager and by the US Coast Guard Auxillary, Air Station, Houston, Texas.

This course was based upon the Association of Air Medical Services (AAMS) curriculum, the Interagency Helicopter Operation Guidelines produced by the Office of Aircraft Services, Department of Forestry, Department of Law Enforcement Association, and the safety/risk report by the Air Medical Physicians Association. It was designed in two levels: Level I for all of Maui emergency medical personnel and Level II for emergency medical personnel assigned as helicopter flight crew.

Level I training consist of a minimum of 3 hours of didactic information regarding appropriate utilization of MedEvac and integration with the current EMS system, helicopter safety awareness, altitude physiology, helicopter scene safety**,** communications and 2 hours of "hands-on" helicopter training to include patient loading and lifting. Skills attainment may take greater than 2 hours and will be carefully monitored to assure that adequate time is given to master them.

Level II training consists of a minimum of 8 hours in addition to Level I training to include implications of altitude physiology on patient care, crew resource management, scene emergency access and egress, dunker training, use of HEEDS emergency oxygen devices, personnel flotation devices, ocean/land survival strategies for crew and patients, communications**,** and patient "hands-on" scene management loading techniques. Skills attainment may take greater time for some personnel and will be carefully monitored to assure that adequate time is given to master them.

Lead Instructors: Dave Caraveo, AMR Regional Safety Manager and Candy Lahm, MICT, Kula Ambulance Team Leader, Kapiolani Community College EMS Instructor, Lead MICT and Team Leader for Kahoolawe Island MedEvac Project.

Maui County Fire and Police personnel are trained in basic helicopter safety awareness and landing zone preparation for operating the Maui County Fire rescue helicopter based upon the Interagency Helicopter Operation Guidelines. Additional training with experience in assisting with patient loading and helicopter safety specific to the Bell 222 aircraft will be provided through development of a 15 minute video for distribution to all fire stations and one hour of "hands on" training with full safety gear and the medically equipped Bell 222 for stations in outlying regions.

Safety Officer

AMR shall designate a MedEvac Safety Officer who will be responsible to keep records of training of personnel and assure that they have completed training prior to flying MedEvac missions. The Safety Officer will review compliance with safety measures and work with other agencies in systems improvements. The Safety Officer will also work with the AMR Medical Director to add specific components related to MedEvac to their existing Quality Improvement Plan and submit such plan to the EMSSIPB for review.

Primary Responsibility for Mission Safety

The following points summarize the procedures to be followed:

- The pilot has the primary responsibility for the overall safety of the helicopter and its occupants. He/she also has the authority to refuse or cancel any mission deemed unsafe for any reason.

- The safety of the MedEvac staff, the patient, emergency workers, and bystanders shall always be given the highest priority during every mission. It is understood that all agencies with personnel involved in MedEvac landings and takeoffs shall have had basic helicopter safety training.

General Safety Guidelines

The following points summarize general safety procedures for MedEvac:

- Personnel assigned to helicopter operations are responsible for the enforcement of, and compliance with all safety regulations.

- Pilots and ground crew personnel shall advise all personnel of the safety requirements near helicopters on the ground and when flights are made.

- Principles of Crew Resource Management (CRM) shall be utilized. During all critical phases of flight, or at the pilot's request, any member of the crew can be utilized to assist the pilot, e.g. observe for obstructions.

- Helmets and other safety equipment provided to the flight crew shall be worn at all times while engaged on a mission.

- Patients with critical injuries who have possible contamination with chemical or biological agents should be thoroughly cleaned and disinfected before loading on to the helicopter.

- All primary flight crews and all equipment shall be weighed so that the pilot can determine the total “gross weight” of the helicopter.

- Cargo will be placed in racks and lashed or tied down securely within the helicopter.

- The pilot’s approval will be obtained first before any gear is stowed in or on the helicopter.

Ground Safety

The following points summarize procedures for ground safety:

- All personnel operating on and around the Landing Zone will wear protective gear.

- All Landing Zones shall be kept clear of spectators when helicopter operations are in progress. A clear landing zone a minimum of 100 feet in diameter is required.

- Patient(s) shall remain in the ambulance until the helicopter is ready for them to be loaded. In the case of Emergency Landing Zones, any patient(s) shall wait at least 100 feet from the helicopter touch down point.

- All night flights will utilize only safe and pre-designated, “night safe”, Emergency Landing Zones.

- Nearby obstructions to helicopter approaches to a Landing Zone should be well-marked or lighted.

- Wind direction shall always be indicated by either flagging, streamers, “popping smoke”, throwing dirt, or holding hands up with backs to the wind.

- All personnel will remain clear of the helicopter by at least 50 feet at all times, unless specific assignments dictate otherwise.

- There will be no smoking within 50 feet of the helicopter or within 100 feet of any refueling equipment. “No Smoking” signs will be posted at all refueling areas and designated secure landing zones.

- Personnel working on or near the MedEvac will wear suitable eye protection (goggles) at all times to guard against possible injury to the eyes by debris in the rotor wash.

- Personnel working at heliports and landing zones will wear suitable ear protection.

- All personnel are to keep clear of all helicopter rotors at all times. Unless required to be closer, personnel shall remain 50 feet away from the helicopter.

- When approaching always approach the helicopter from the side and near the front in full view of the pilot.

- If a helicopter is left unattended, stay clear of it.

- Always approach and depart from the helicopter at a slight crouch and keep in sight of the pilot at all times.

- Keep clear of the rear section of the helicopter at all times

- Never approach the helicopter from any side where the ground is higher than the ground on which the helicopter is standing or hovering.

- Keep all long-handled tools clear of the main rotor's path or stabilizer bar.

- Crew equipment, tools, lunches, papers, refuse, etc. will not be stored on the landing area by personnel when working in the immediate vicinity of a heliport or landing zone.

- Do not face helicopters when they are landing, taking off, or hovering unless goggles are worn.

- Loose clothing, hats, blankets, stethoscopes and any other loose object could be sucked into the rotors and must be removed before personnel are allowed within 4 rotor spans of the helicopter.

As in all matters of safety, the pilot shall have final authority for all landings.

Landing Zone Safety

The Maui Fire Department (MFD) shall provide and ensure non-airport Landing Zone safety for scene landing subject to availability of Fire Department resources and personnel. If the MFD is not available, then the Maui Police Department (MPD) shall supply an officer to ensure Landing Zone safety. The MPD and/or MFD shall also supply units, subject to resource availability, to provide for crowd control; and to respond to any emergencies that may develop.

National Park personnel shall be on standby at Landing Zones in National Parks in order to provide safety, crowd-control and to respond to any emergency situations that may develop.

Patient Loading Procedures

The following points summarize procedures for patient loading onto the MedEvac:

- Patient(s) shall remain in the ambulance until the helicopter is ready for them to be loaded. In the case of Emergency Landing Zones, any patient(s) shall wait at least 100 feet from the helicopter touch down point.

- The MedEvac Helicopter is limited to a maximum of 2 (two) patients per flight, but depending on weight, patient size, acuity and availability of accompanying medical personnel, the MedEvac Helicopter may only be able to take 1 (one patient).

- Patients will be prepared for transport prior to helicopter arrival. The MedEvac Helicopter air crew will be in charge of loading priorities and procedures.

- Loose clothing, hats, blankets, stethoscopes, and any other loose objects that could be sucked into the rotors must be removed before personnel are allowed within 4 rotor spans of the helicopter. This should be done while awaiting MedEvac.

- Patients shall be loaded one at a time, and only one patient at a time will be permitted within the rotor span of the helicopter to ensure safety.

- Assistance may be required from on-site personnel. On-site personnel will ensure all items that accompany the patient are secured and given to the MedEvac MICT.

- Patients who have possible contamination with chemical or biological agents should be thoroughly cleaned and disinfected before entering the helicopter. In such cases, transport by ground ambulance, if at all feasible, should be given strong consideration.

In-Flight Safety

The following points summarize in-flight safety procedures:

- Safety belts and shoulder harnesses will be fastened by all occupants and adjusted before taking off and only removed when instructed by the pilot, or upon landing.

- Eye protection and ear protection is to be worn at all times during MedEvac missions except when removed for patient assessment.

- All equipment will be properly secured.

- Doors will be properly secured.

- Ground crews and medical teams will alert the MedEvac staff about any uncooperative patient behavior that may potentially put the safety of the mission at risk. For this reason, patients with behavioral emergencies (whether or not drug-related) will generally NOT be transported by the MedEvac.

- If a patient is temporarily uncooperative but has life-threatening emergencies that would benefit from MedEvac transport, chemical and/or hard restraints may be used following consultation with the Maui Memorial Base Station Physician.

- The MICT and flight crew can refuse to transport any patient who they feel might reasonably be considered to pose a threat to the safety of the mission.

Minimum Flight Conditions

The following points summarize the minimum flight conditions for MedEvac operation:

- For local missions in familiar terrain, there must be at least a 1000 foot ceiling and daylight visibility must be at least one (1) mile.

- For cross-island, back-country, and other-island flights where there are few guiding roads or geographic reference points, there must be at least a 1,000 foot ceiling and visibility of at least three (3) miles.

- For night time Visual Flight Rules (VFR) there must be at least a 1,000 foot ceiling and three miles visibility. The moon should be half full and at least 30 degrees above the horizon. Weather must be clear. All night flights will utilize only pre-assigned Emergency Landing Zones (ELZ).

Single Abort Policy

It is the policy of American Medical Response, Pacific Helicopters, and the State of Hawaii that a flight can be aborted at any stage, even before lift-off, by any member of the flight team, for reasons of safety. Therefore all transferring agencies must be prepared to take back any patient and make other transportation arrangements from aborted missions.

If a mission is aborted, an incident report shall be written as to why the mission was aborted, with a copy sent to the State EMSSIPB and to the AMR Regional Safety and Risk Manager. A copy of these reports is to be kept for 5 years.

Medical Oversight

Offline Medical Control

Licensing laws governing scope of practice of MICTs and EMTs require they perform patient care under the direction of a licensed physician. Offline medical control refers to the rules that govern patient care by EMS personnel. Patient care algorithms and procedures for certain conditions are established by the EMSSIPB Medical Directors and are performed by MICTs. Offline medical control of patient care at the scene and during transport by helicopter will be provided in keeping with the current State of Hawaii Department of Health MICT Standing Orders.

During the first year of service, the Maui State EMS Medical Director and the State EMS Medical Director will review all requests for MedEvac and charts of actual cases. Cases and issues for MedEvac quality improvement will be submitted to the Aero-Medical Quality Improvement Committee of the EMSSIPB for review.

Policies and procedures related to pre-hospital patient care or use of the MedEvac Service shall be approved and changed only by the State EMS Medical Director who shall have the authority to limit use of MedEvac for inter-facility transfers.

Online Medical Control

Online Medical Control is defined to mean providing medical direction in “real-time” at the scene and during transport to a medical facility. Emergency care, other than that covered by Standing Orders, is rendered by MICTs by orders given over the MEDICOM communication system by a licensed emergency physician at designated Base Station hospitals. The EMS Base Station Physician

at Maui Memorial Medical Center (MMMC) shall be the designated pre-hospital medical control officer for all Maui 911 MedEvac Helicopter missions. The MMHC Base Station Physician may transfer authority for pre-hospital medical control to a State approved MEDICOM physician at the destination hospital for patients going to other facilities.

Criteria for Use of MedEvac

Basic Triage Criteria

Use of MedEvac is primarily intended to reduce transport time to definitive care for selected critically ill or injured patients. Helicopter ambulance transport has some disadvantages over ground and fixed-wing transport. Medical assessment and intervention in the helicopter is comparatively limited due to noise, motion, space limitations, security needs, vibration, and altitude changes and the risk for injury during missions is greater. These factors must be weighed against the shorter transport time when determining the advisability of MedEvac transport. In each case, regardless of the severity of the patient's illness or injury, the time benefit of MedEvac transport over ground ambulance must be deemed to be of sufficient importance to a patient's outcome to warrant its use.

Several national organizations have issued guidelines and standards for use of emergency helicopters, and Act 2 instructs that the MedEvac system be based on these guidelines. It must be kept in mind that triage is effected by multiple factors that include not only the patient's condition but also other attributes of the system. Each EMS system has unique factors that must be used to form triage criteria. The rationale for these criteria will be part of training for all Maui EMS personnel.

After assessing the Maui County EMS System, the recommended criteria are that MedEvac transport should be strongly considered when a patient's condition:

1) Is deemed by an on-scene MICT, EMT, Fire Captain, or Police Sergeant to require rapid transportation in order to prevent the loss of life, limb, or vital tissue, **AND**
2) It is deemed that under the existing conditions, MedEvac would save 30 minutes or more over a ground ambulance transport.

Until Maui Memorial has a helipad, the additional time to transfer the patient from the helicopter to a ground ambulance and then to the hospital must be factored in as well.

Because of the difficulty of performing procedures in flight, all patients being transported by the MedEvac should have a patent airway and I.V. access but transport of critically injured patients should not be delayed if, in the opinion of the treating MICT, the benefits of rapid transport outweigh the risk of further delay.

MedEvac patients from Moloka'i and Lanai will generally be transported directly to appropriate facilities on Oahu, while patients from the islands of Maui and Kaho'olawe, except in special circumstances, will be transported to the Maui Memorial Medical Center. In other appropriate cases, the field MICT, in consultation with the Base Station Physician at Maui Memorial Medical Center, may request that MedEvac transport patients directly from a scene to another facility capable of providing needed specialized treatment.

When MedEvac should not be Used:

The following points summarize conditions under which MedEvac would generally not be used:

- When ground ambulance transport can get the patient to the hospital in 30 minutes or less.

- For respiratory problems exacerbated by increasing altitude including, but not limited to, closed pneumothorax.

- For patients exhibiting behavioral disorders or under the influence of mind altering drugs, whose behavior cannot be adequately controlled.

- When the patient cannot tolerate transport while supine (lying flat on their back).

- For victims of altitude sickness or barotrauma, except for spinal cord decompression sickness that requires a recompression chamber

- For pregnant patients in uncomplicated labor.

- To transport infants. (The Maui MedEvac Helicopter is not equipped for neonatal or pediatric team transfer)

- For stable ICU to ICU (or CCU) transfers.

- As a search and rescue helicopter. MedEvac may retrieve victims already identified by search and rescue teams in remote areas if there is a safe emergency landing zone and the patient otherwise qualifies for MedEvac.

- To transport patients who are clinically dead, where CPR is still in progress, or for "NO CODE" and hospice patients (patients with advanced directives requesting no CPR or no extraordinary measures).

- To pick up patients in the water or on boats.

Special Circumstances

MedEvac may be used on a case-by-case basis in special patient circumstances outside of these guidelines upon consultation between the treating MICT and the Base Station Physician at MMMC.

When there is an urgent need for the emergency transfer of limited and essential resources, e.g. medical equipment and personnel to facilities with limited resources in times of disasters or inaccessible ground routes, use of the MedEvac may be appropriate. American Medical Response's Maui Operations Director (or his representative) will be contacted for non-patient transport. If approved, the HAA Flight Communications Center will be contacted by the Maui Operations Director with specific instructions for the mission.

Description of the Maui MedEvac Helicopter Service

Helicopter

The helicopter used for MedEvac will be a Bell 222 medically configured twin-engine helicopter leased from Pacific Helicopters who will be responsible for its maintenance and usage in accordance with FAA regulations. The helicopter will be situated at Kahului Airport.

Equipment and Medications

The MedEvac helicopter will have all equipment and medications required on ground ambulances by Title 11, Chapter 72 EMS Administrative Rules. It will also carry sufficient oxygen for patient missions, including a factor for unanticipated delays.

Landing Zone Guidelines

The Maui Fire Department shall provide and ensure Landing Zone safety for scene landing subject to availability of Fire Department resources. If the Maui Fire Department is not available, then the Maui Police Department shall supply an officer to ensure Landing Zone safety.

Minimum Crew

Minimum crew will consist of one (1) pilot, one (1) MICT, and one (1) EMT. An additional pilot shall fly, as needed depending on mission type, time of day, weather, and other operational conditions. If a nurse or other health professional is needed for special equipment or medications on a given mission, then that person shall be deemed part of the minimum crew, and may replace the EMT on the medical crew.

Staffing

The Primary Medical Crew to staff MedEvac shall be the on-duty Medic 11 ambulance crew stationed at Kula. The Medic 11 designated landing zone for crew pick-up Landing Zone (CLZ) shall be at the Kula Ball Park. If the Kula Medic 11 crew is out of the station on a 911 call, and cannot arrive at the CLZ within 7 minutes from dispatch, an alternate crew may be utilized. The first choice back-up medical staff shall be the on-duty Medic 14 crew (Wailea) once that unit is established. The Medic 9 CLZ shall be at the Kihei Fire Station. When the back-up crew is not available, then the on-scene EMS ambulance crew may be utilized provided they have had training for the role and provided that the designated Emergency Landing Zone (ELZ) is deemed safe to use by MFD/MPD, which is the closest to the scene.

Operational Hours/Conditions

The MedEvac service is intended to be available 24 hours daily, 7 days per week. Subject to the pilot's final approval, the availability of the service will be only be limited by weather, visibility, mechanical readiness of the helicopter, and the presence of appropriate crew and medical personnel. The safety of the crew, patients, and ground crew will be the top priority in accepting, declining, or aborting a mission.

Target Response Times

Helicopter - Dispatch to airborne - 5 minutes

Helicopter - Airborne to primary crew landing zone - 5 minutes

Medical Crew- Dispatch to Arrival at crew landing zone- less than 7 minutes

Procedure for Using MedEvac

Activation/Request

Activation or request for MedEvac service will generally occur after an on-scene MICT determines that the patient's condition warrants use of the fastest medical transport modality available to prevent loss of life, limb, or vital tissue and the ground ambulance transport time will exceed 30 minutes to the hospital. The MICT shall call Maui Central Dispatch via MEDICOM to request MedEvac and any needed support from Police and/or Fire Departments. If MEDICOM does not work, a cellular (or other) phone may be used.

In addition to an MICT, a Maui County Police Command Officer (Sergeant and above) or a Maui County Fire Department Command Officer (Captain or above) or a National Park Service EMT at the scene may also call for the MedEvac if, in their opinion, the above critical condition and time criteria exist **and** the ETA of the en route ground ambulance is more than 10 minutes.

Necessary Call Information

In each case, the person calling-out the MedEvac helicopter shall inform Maui Central Dispatch of:

- Name of person/ambulance unit requesting MedEvac

- The number of patients to be transported (maximum is two)

- The nature of the illness or injury

- Reason the MedEvac is indicated

- Any special equipment needed for the transport

- Location of the scene

- Proposed destination of the patient(s)

- Location of pick-up site with GPS coordinates (if available) and/or the nearest pre-designated Emergency Landing Zone

- Weather conditions and visual markings at the pick-up site

Dispatch and Communications

All dispatching of the MedEvac within the 911 EMS system shall be done by the Maui Police Department (MPD) 911 communications/dispatch center, Maui Central Dispatch (Dispatch). Dispatch will be in radio communication with the MedEvac at all times via the MEDICOM radio system. The 800 MHz radio system may be utilized as a back-up communication system. When MedEvac is on the ground on Oahu, and whenever MEDICOM is unavailable, cellular (or other) phone communications may also be utilized.

Dispatch shall notify the MedEvac medical crew (designated and available ground ambulance crew) and provide the flight crew and medical crew with the scene information from the original MICT call and the appropriate landing zone information for the medical crew to rendezvous with MedEvac. Dispatch shall also notify the appropriate MPD personnel and MFD about MedEvac missions.

The following points summarize Dispatch procedures upon receipt of a MedEvac transport request:

1) Obtain the necessary call information;
2) Notify helicopter pilot/medical crew
3) Obtain from pilot the ETA for the helicopter at the CLZ and the scene ELZ
4) Notify MFD, and/or MPD units so that they can prepare the CLZ and ELZ
5) Notify MedEvac and ground MICTs of ETA at ELZ
6) Dispatch additional ambulance units as needed
7) Assist in relaying pertinent communications between responding units
8) Dispatch appropriate MFD Engine Company to MMMC landing zone when necessary.

Flight Crew

Prior to launching each mission, the MedEvac pilot shall evaluate weather conditions and helicopter air-worthiness to determine whether or not the mission can be safely undertaken. This determination is to be done without knowledge of the number of patients, types, or ages of the injured or ill. The MedEvac pilot shall launch a mission only he deems it safe to do so, and shall abort a mission whenever he deems overall conditions to have become unsafe.

The MedEvac flight crew shall call in the following times to Maui Central Dispatch:

-responding to call (pilot and medical crew)
-liftoff (pilot)
-arrival at the Crew Landing Zone (CLZ) (pilot and medical crew)
-en route to patient pick up
-touchdown at patient pick-up Landing Zone
-lift off with patient and every 15 minutes during flight
-touch down at Medical Facility
-back in service, and lift off to CLZ and every 15 minutes during flight
-back in service on the ground
-back in service at the helipad

The flight crew shall also call in the following times to Hawaii Air Ambulance Flight Communications Center:

-lift off with patient and every 15 minutes during flight
-touch down at Medical Facility
-back in service, and lift off to CLZ and every 15 minutes during flight

Medical Crew

Patient care, prioritization and destination decisions shall be managed by the MICT in charge of the case in agreement with State approved protocols and in consultation with the MMMC's Base Station Physician.

As soon as the outbound MedEvac is airborne with the medical staff, the MedEvac MICT shall give a scene ETA to 911 Dispatch and re-confirm information regarding the appropriate landing zone (scene or pre-designated).

Based on the initial communication to Maui Central Dispatch, information received from the scene will be communicated by the medical crew while en route to inform Maui Memorial Medical Center of the mission that is underway and give an estimated ETA to the hospital.

After the MedEvac has departed the scene with the patient, the scene MICT shall communicate the incoming patient's condition to the receiving hospital's Base Station Physician, including an ETA.

A cellular (or other) phone communication may be preferable to a MEDICOM communication so that the MEDICOM remains open to the MedEvac crew to communicate with the Base Station. If the appropriate destination for the patient is uncertain, the MICTs shall consult with the Base Station Physician at MMMC prior to the patient leaving the scene.

Multiple Calls

When there is more than one call for the MedEvac during the same time period, the MMMC Base Station Physician, in consultation with the MICTs at the scenes, shall determine which patient they should respond to first, and how to transport the remaining patients.

Canceling a Call

When MedEvac is activated by a first responder the first MICT who arrives on the scene will perform a full assessment. If it is then determined that the patient does not meet MedEvac criteria, the MICT at the scene may cancel a request for MedEvac by consulting with the MMMC Base Station physician on duty and if they concur, calling Dispatch to inform the MedEvac flight crew and medical crew of the cancellation.

Inter-facility Transfers

General Guidelines

Requests for use of MedEvac for emergency inter-facility transfers shall be in accordance with National Standards set by the Association of Air Medical Services, the American College of Surgeons, and the National Association of Emergency Medical Service Physicians. In addition, factors related to over-all efficient use of EMS resources within Maui County and the State are taken into consideration.

Criteria require that each inter-facility transfer be done with the understanding that time to definitive treatment must be closely linked to patient outcome to warrant MedEvac use. Each time the MedEvac is utilized for transfers a 911 emergency ground ambulance crew will be used as the MedEvac medical staff. Their ground ambulance unit and the helicopter will not be available for 911 calls until the transfer is completed. There will be no pre-scheduled inter-facility transfers – only emergency transfers for patients with time-sensitive medical conditions.

In order to assure the medical necessity of the MedEvac transfer request, the transferring physician shall complete and sign the MedEvac Transfer "Certification of Need" Form prior to the patient leaving the facility (Appendix C). The form will record which of the following criteria were considered to be present:

- Emergency, life-saving treatment is required at an off-island facility, and has been arranged for at the receiving facility, **and** the wait for a fixed-wing air ambulance would, in the opinion of the treating physician, put the patient at risk for loss of life, limb, or vital tissue.

- Emergency cardiac intervention is deemed necessary (e.g. surgery after failed thrombolysis), and has been arranged for at the receiving facility, and fixed-wing air ambulance's time to transfer the patient is projected to exceed 90 minutes.

- Urgent surgery or a definitive procedure is scheduled **upon arrival** at a receiving facility on another island that, in the opinion of the treating physician, is necessary to prevent loss of life, limb, or vital tissue, **and** fixed-wing air ambulance's ETA to pick-up the patient is projected to exceed 2 hours.

Utilization of the MedEvac for inter-facility transfers shall be within the MICT scope of practice as defined by the State of Hawaii, MICT Adult and Pediatric Standing Orders and Extended Standing Orders. Compliance with all EMTALA regulations shall be the responsibility of the transferring facility.

The sending physician shall be responsible for medical control, or designate the Base Station Physician at the receiving medical facility as the medical control officer.

- The MedEvac when used for urgent interfacility transfers shall operate under that same State of Hawaii rules and regulations as ground ALS transfer ambulances.

- Any equipment handling, exchange, or return must be arranged for by

the hospitals themselves. American Medical Response and the State of Hawaii are not responsible for the return of equipment sent with the patient.

- Neither AMR nor the State of Hawaii is responsible for any damage incurred to equipment sent with any patient.

Transfer Requests

For all emergency inter-facility air transport arrangements (i.e. non-911 cases), the transferring physician shall call the Hawaii Air Ambulance Flight Communications Center at 800-201-2911 or 808-836-2000 as is the current procedure. Physician requests for MedEvac transfers are not to be made directly to Maui Central Dispatch. The HAA Flight Communication Center is used to coordinate transfers so as to maximize the efficient utilization of all resources

The physician requesting transfer will be informed by HAA dispatch of the ETA for fixed-wing ambulance and whether or not the request appears to meet criteria to be considered for MedEvac transfer. If MedEvac is clearly indicated, HAA shall call Maui Central Dispatch with the necessary call information. Activation of MedEvac will then proceed as in 911 MedEvac calls.

If the Hawaii Air Ambulance dispatcher and the physician requesting transfer arrangements disagree as to whether a request for MedEvac is indicated, a discussion shall take place between the physician requesting the transfer and the HAA Flight Communications Center's on-call Medical Director, before MedEvac is dispactched.

In cases where the HAA Medical Director is not immediately available or there is disagreement between the physician requesting MedEvac and the HAA Medical Director, the MMMC Base Station Physician is to be consulted to determine the appropriateness of fixed wing vs. helicopter transfer. All MMMC Base Station physician decisions shall be final but shall later be reviewed for system improvement purposes.

Patient Preparation

Thorough coordination and preparation is essential to the success of interfacility transports. It is always the transferring physician's responsibility to find an accepting physician at the receiving hospital, and to relay all pertinent patient information to him. In addition, the patient's medical information, X-Rays, lab results, and transfer papers are to be copied and given to the medical crew prior to the transfer. Specialized equipment or medications needed during transport that are outside the MICT scope of practice will not be continued during MedEvac transport unless a qualified health care provider is sent to oversee its use.

- Litters and backboards must be compatible with the MedEvac.

- No glass bottle I.V.s will be accepted. Saline locks are an acceptable I.V. access when fluid administration is not necessary during transport.

- Sufficient drip medications should be pre-mixed and sent with each patient to reach the destination hospital.

- A completed Transfer Form shall accompany each interfacility transfer patient. Copies of all records and forms shall be given to the receiving physician.

- Any additional equipment must be labeled with the transferring agency name.

Communications

Maui Central Dispatch will be in radio communication with the MedEvac at all times via the MEDICOM radio system. The MedEvac medical crew shall continuously monitor the State of Hawaii MEDICOM Radio as well as Maui County's 800 MHz radio system. Flight following will utilize the Hawaii Air Ambulance Communications Center's monitored frequency 122.825. (When the MedEvac is on the ground on Oahu, or MEDICOM is not working, cellular (or other) phone communications may also be utilized.

Proper communications during emergency transfers must be maintained at all times, beginning with the initial request and during the flight until the final destination is reached.

Quality Assurance

The AMR MedEvac Safety Officer shall be responsible for collecting records of all MedEvac missions and for monitoring of internal indicators for system performance that are pertinent. These records will be reviewed by the AMR Medical Director and will be forwarded to the State EMSSIPB for data entry and State and Maui EMS Medical Director review. Maui County Police Dispatch and HAA will provide records related to time data points for data collection as requested by EMSSIPB. Records and data will be forwarded to the State EMSSIPB within 30 days of the mission.

The State Aero medical Quality Assurance Committee will receive and review cases forwarded to it by AMR and any system providers or concerned community members. The EMSSIPB will issue monthly reports on the utilization of MedEvac.

Appendix A

List of Designated Landing Zones

Designated Maui County Landing Zones

-War Memorial Complex near Maui Memorial Medical Center
- Hana- Hana airport
- Lanai Community Hospital- Lanai Airport
- Moloka'i General Hospital
-Kalaupapa Airport

Wailea Fire Station
Wailea Crew Landing Zone
GOOD FOR NIGHT OPERATIONS

Makena (Big Beach)
DAYS ONLY

Makena west parking lot
DAYS ONLY

Lahaina
Lahaina Recreation Center across Shaw Street from Lahaina Aquatic Center
GOOD FOR NIGHT OPERATIONS

Lahaina Civic Center @ Leiali'i across ambulance Lahaina Comp Health Center
GOOD FOR NIGHT OPERATIONS

Napili Park
GOOD FOR NIGHT OPERATIONS IF MEDICS ILLUMINATE FIELD WITH HEADLIGHTS FROM PARKING LOT

Above Kahakuloa at Mile 13 marker
Cut field and open gate
DAYS AND GOOD WEATHER

The Cliffs at Hakuhee Way, Kahakuloa
OK FOR NIGHT OPERATIONS IN GOOD WEATHER

Medic 2 Makawao Baseyard 1295 Makawao Avenue
Alternate Crew Landing Zone
GOOD FOR NIGHT OPERATIONS

Kula Park Calasa Road below Kula Fire Station Crew Landing Zone
GOOD FOR NIGHT OPERATIONS

Kaupo Church – St. Joseph's
DAYS ONLY

Kipahulu Visitor Center at Pools of O'heo
OK FOR NIGHT OPERATIONS IN GOOD WEATHER

Hana Airport
NO IFR APPROACH, OK FOR NIGHT OPERATIONS DEPENDING ON

Keanae Ball Park
OK FOR NIGHT OPERATIONS DEPENDING ON WEATHER AND MOON

Haiku-Giggle Hill Playground
GOOD FOR NIGHT OPERATIONS

Lanai Airport
Night safe, primary landing zone for Lanai MedEvac Flights

Luau Grounds at Manele- can be used for Manele calls or for when Lanai Airport is inaccessible
Wires to the north
GOOD FOR NIGHTS
Call Manele Bay in advance for security

Hale O Lono, Moloka'i
GROUND UNITS NEEDS TO USE HEADLIGHTS FOR ILLUMINATION AT NIGHT
BUT OTHERWISE GOOD FOR NIGHT LZ

Maunaloa Ball Park, Molokai
GROUND UNIT NEEDS TO USE HEADLIGHTS FOR ILLUMINATION AT NIGHT
BUT OTHERWISE GOOD FOR NIGHT LZ

Kaunakakai Ball Park
Light posts to the east

One Ali'i Park, Moloka'i

GROUND UNIT NEEDS TO USE HEADLIGHTS FOR ILLUMINATION AT NIGHT
BUT OTHERWISE GOOD FOR NIGHT LZ

Kilohana School Park, Moloka'i

Power lines to south
GROUND UNIT NEEDS TO USE HEADLIGHTS FOR ILLUMINATION AT NIGHT
BUT OTHERWISE GOOD FOR NIGHT LZ

Kainalu, Moloka'i at **Dunbar's Makai Pasture**

Cables south west
MAUKA PASTURE CAN BE USED IF ANIMALS IN FIELD

GROUND UNIT NEEDS TO USE HEADLIGHTS FOR ILLUMINATION AT NIGHT
BUT OTHERWISE GOOD FOR NIGHT LZ

Designated Oahu Landing Zones

- Queen's Medical Center
- Honolulu Airport- Bradley Pacific Aviation (located on Lagoon Drive) for all other hospitals on Oahu without suitable landing zones

As the MedEvac service is implemented additional landing zones on Oahu may be expanded to include

- Kuakini Medical Center
- Tripler Army Medical Center
- Kaiser Hospital
- St. Francis West Medical Center

Appendix B

STANDING ORDERS - ADULT / PEDIATRIC 4-2004

TRANSFER STANDING ORDER (TSO)

A certified MICT may accept an order to transfer a patient from one medical facility to another under the following conditions:

1. The order comes from a Hawaii licensed physician, who is treating the patient.

2. The MICT is adequately informed of the patient's diagnosis, condition, medications, allergies, and expected course during ambulance transfer, specific Living Will/CCO/DNR status, and any other specific information requested by the MICT for safer transfer.

3. The MICT may use State of Hawaii, DOH, MICT Adult and Pediatric Standing Orders and Extended Standing Orders shall for patient care with communication to a Base Station Physician after doing so, or for additional orders.

4. The MICT will communicate with the receiving hospital to give an ETA and report on the patient’s condition.

Appendix C

Maui MedEvac Inter-facility Transfer Certification of Need

Legislative Statutes require that the Maui MedEvac Helicopter be utilized in accordance with National standards set by the Association of Air Medical Services, the American College of Surgeons, and the National Association of Emergency Medical Service Physicians. Each inter-facility transport shall be done with the understanding that time to definitive treatment is the standard required by enabling legislation. Each time the MedEvac is in service, the crew from a 911 emergency ground ambulance will be taken from service to serve as the helicopter medical staff.

To assure that the interfacility transfers done by the Maui MedEvac Helicopter are in accord with National Standards,

Please check which of the following statement(s) pertain to your patient, sign the form, and send it with the patient:

___ Emergency, life-saving treatment is required at an off-island facility, and has been arranged for at the receiving facility, **and** the wait for a fixed-wing air ambulance would, in my medical opinion, put the patient at risk for loss of life, limb, or vital tissue.

___ Emergency cardiac intervention is deemed necessary (e.g. surgery after failed thrombolysis), and has been arranged for at the receiving facility, and fixed-wing air ambulance's ETA to pick-up the patient is projected to exceed 90 minutes.

____Urgent surgery or a definitive procedure is scheduled **upon arrival** at a receiving facility on another island that, in my opinion, is necessary to prevent loss of life, limb, or vital tissue, **and** fixed-wing air ambulance's time to transfer the patient is projected to exceed 2 hours.

DATE: _____ SENDING FACILITY: _____

PATIENT'S NAME: _____

CERTIFYING MD'S SIGNATURE: _____